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10/664,458	09/18/2003	Shunpei Yamazaki	0553-0379	4357

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COOK, ALEX, MCFARRON, MANZO,  
CUMMINGS & MEHLER, LTD.  
Suite 2850  
200 West Adams St.  
Chicago, IL 60606

EXAMINER
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RAABE, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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2879

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06/19/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/664,458

Applicant(s)

YAMAZAKI ET AL.

Examiner

CHRISTOPHER M. RAABE

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-12,15,23 and 36-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-12,15,23 and 36-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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**DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2 June 2009 has been entered.

Applicant's arguments with respect to the rejections of the claims have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3,6,8-11,15,23,36-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamazaki et al. (USPN 2002/0130828)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

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With regard to claim 1,

Yamazaki et al. disclose in at least figure 14 and paragraph 18, a light-emitting device comprising: a transistor (963) formed over a substrate (not labeled); a first layer (939), the first layer having a thickness which is larger than a step caused by the transistor (963), a first passivation film (981) formed over and in contact with the first layer (939), a photosensitive organic resin film (982) having an opening, the photosensitive organic resin film (982) being formed over and in contact with the first passivation film (981); a light-emitting element having an anode (951), a cathode (947) and a light-emitting layer (950) between the anode (951) and the cathode (947); a second passivation film (953) formed over the photosensitive organic resin film (982) and the light emitting element, wherein the anode is in contact with the first passivation layer and electrically connected to the transistor; wherein the cathode is in contact with the second passivation film, wherein the photosensitive resin film (982) is in contact with the light emitting layer (950), and wherein the transistor (963) is located below the photosensitive organic resin film (982) and simultaneously in a periphery portion of the opening.

With regard to claim 2,

Yamazaki et al. disclose in at least figure 14 and paragraph 18, a light-emitting device comprising: a transistor (963) formed over a substrate (not labeled), a first layer (939), the first layer (939) having a thickness which is larger than a step caused by the transistor, a first passivation film (981) formed over the and in contact with the first layer (939), a photosensitive organic resin film (982) having an opening, the photosensitive organic resin film (982) being formed over and in contact with the first passivation film; and a light-emitting element formed

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over the first passivation film having an anode (951), a cathode (947) and a light-emitting layer (950) between the anode (951) and the cathode (947); wherein the anode is electrically connected to the transistor, wherein the anode and photosensitive organic resin film are in contact with the first passivation film, wherein the anode (951), the cathode (947) and the light-emitting layer (950) are overlapped in the opening, wherein the photosensitive resin film (939) is in contact with the light emitting layer (950), wherein the transistor (963) is located below the photosensitive organic resin film (982) and simultaneously in a periphery portion of the opening, wherein the light emitting layer (950) comprises copper phthalocyanine as a hole injection material, and a second passivation film (953) formed over the light emitting element wherein the cathode is in contact with the second passivation film, and wherein the photosensitive organic resin film and the cathode are covered with the second passivation film.

With regard to claim 3

Yamazaki et al. disclose a radius of curvature of a curve that a section in the opening of the insulating film depicts being in the range of from 0.2 to 2  $\mu\text{m}$  (paragraph 31), allowing an EL film and insulating film to be formed with minimal complication.

With regard to claim 6,

Yamazaki et al. disclose a light emitting device according to any one of claims 1 and 2, wherein at least one of the first and second passivation film is a carbon nitride or silicon nitride film. The phrase "formed by an RF sputtering process" does not structurally distinguish the claimed invention over the prior art.

With regard to claim 8,

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Yamazaki et al. disclose in at least figure electronic equipment having a light emitting device wherein the electronic equipment is selected from the group consisting of video cameras, digital cameras, goggle type displays, navigation systems, audio reproducing devices, laptop computers, game machines, portable information terminals, image reproducing devices.

With regard to claim 9,

Yamazaki et al. disclose a light-emitting device, wherein the first passivation film and second passivation film comprise a material selected from the group consisting of DLC, boron nitride, alumina, carbon nitride and silicon nitride.

With regard to claim 10,

Yamazaki et al. disclose a light-emitting device, wherein an interface of the anode and the first passivation film is parallel to a surface of the substrate.

With regard to claim 11,

Yamazaki et al. disclose in a light-emitting device, wherein the transistor controls a current that is supplied to the light-emitting element, wherein both the light-emitting element and the transistor are plurally disposed in a pixel portion of the light-emitting device, wherein the pixel portion is disposed on a substrate.

With regard to claim 15,

Yamazaki et al. disclose a light emitting device wherein the light emitting layer comprises a quinacridone derivative.

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With regard to claim 23,

Yamazaki et al. disclose in at least figure 14 and paragraph 18, a light-emitting device comprising: a transistor (963) formed over a substrate (not labeled), a first layer (939) provided over the transistor, the first layer (939) having a thickness which is larger than a step caused by the transistor, a first passivation film (981) formed over the and in contact with the first layer (939), a photosensitive organic resin film (982) having an opening, the photosensitive organic resin film (982) being formed over and in contact with the first passivation film; and a light-emitting element formed over the first passivation film having an anode (951), a cathode (947) and a light-emitting layer (950) between the anode (951) and the cathode (947); wherein the anode is electrically connected to the transistor, wherein the anode and photosensitive organic resin film are in contact with the first passivation film, wherein the anode (951), the cathode (947) and the light-emitting layer (950) are overlapped in the opening, wherein the first passivation film is arranged to prevent the anode from being in contact with the first layer, wherein the photosensitive resin film (939) is in contact with the light emitting layer (950), wherein the transistor (963) is located below the photosensitive organic resin film (982) and simultaneously in a periphery portion of the opening, wherein the angle of an interface between the photosensitive organic resin film and the light emitting layer to the anode sequentially varies, and a second passivation film (953) formed over the light emitting element wherein the cathode is in contact with the second passivation film, and wherein the photosensitive organic resin film and the cathode are covered with the second passivation film.

With regard to claim 36,

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Yamazaki et al. disclose a light emitting device wherein the light emitting layer comprises a quinacridone derivative.

With regard to claim 37,

Yamazaki et al. et al. disclose the light emitting device according to claim 23, wherein the transistor (963) controls a current that is supplied to the light emitting element, wherein both the light emitting element and the transistor are plurally disposed in a pixel portion of the light emitting device and wherein the pixel portion is disposed in the substrate.

With regard to claim 38,

Yamazaki et al. disclose a light emitting device according to claim 23, wherein at least one of the first and second passivation film is a carbon nitride or silicon nitride film. The phrase "formed by an RF sputtering process" does not structurally distinguish the claimed invention over the prior art.

With regard to claim 39,

Yamazaki et al. et al. disclose, additionally electronic equipment having the light emitting device according to claim 23, wherein the electronic equipment is selected from the group consisting of cameras, goggle displays, nav systems, audio reproducing device, laptops, game machines, portable information terminals, image reproducing devices.

With regard to claim 40,



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Yamazaki et al. disclose a light-emitting device, wherein the first passivation film and second passivation film comprise a material selected from the group consisting of DLC, boron nitride, alumina, carbon nitride and silicon nitride.

With regard to claim 41,

Yamazaki et al. disclose a light-emitting device, wherein an interface of the anode and the first passivation film is parallel to a surface of the substrate.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (as above), in view of Himeshima et al. (Japanese Patent 09-235546).

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The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

With regard to claim 12,

Yamazaki et al. disclose the light emitting device. Yamazaki et al. do not disclose a light-emitting layer comprising a dopant at a concentration of 0.1% by weight or more and 0.4% by weight or less. Himeshima et al. do disclose in at least paragraph 19 and embodiment 6, a light-emitting layer comprising a dopant at a concentration of 0.1% by weight or more and 0.4% by weight or less, avoiding a concentration quenching effect.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the dopant concentration, as disclosed by Himeshima et al., into the device of Yamazaki et al. in order to avoid a concentration quenching effect (paragraph 19 of Himeshima et al.).

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Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al., as applied to claim 2 above, and further in view of Yamazaki et al. '320 (USPN 6359320).

With regard to claim 4,

Yamazaki et al. disclose a light-emitting device.

Yamazaki et al. does not disclose a light-emitting device wherein the photosensitive organic resin film has positive photosensitivity.

Yamazaki et al. '320 do disclose a light-emitting device wherein the photosensitive organic resin film has positive photosensitivity, allowing for small changes in the conductivity of the organic resin film.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the photosensitivity range disclosed in Yamazaki et al. '320 into the device of Yamazaki et al. to allow small changes in the conductivity of the organic resin film.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al., as applied to claim 2 above, and further in view of Tamai et al. (USPN 5793497).

With regard to claim 5,

Yamazaki et al. disclose a light-emitting device.

Yamazaki et al. does not disclose a light-emitting device wherein the photosensitive organic resin film has negative photosensitivity.

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Tamai et al. do disclose a photosensitive organic resin film having negative photosensitivity (column 3, line 64 – column 4, line 6), lowering the conductivity of the organic resin film.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the photosensitivity range disclosed in Tamai et al. into the device of Yamazaki et al. in order to lower the conductivity of the organic resin film.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER M. RAABE whose telephone number is (571)272-8434. The examiner can normally be reached on m-f 7am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CR/

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/NIMESHKUMAR D. PATEL/

Supervisory Patent Examiner, Art Unit 2879